

MEMORANDUM


DEPARTMENT OF TRANSPORTATION

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Date: June 1, 2012

To: CDOT Project Managers and Project Engineers
Hydraulic Engineers
Region and HQ Environmental/Water Quality/ Specialists

From: Timothy Harris, P.E. 
Chief Engineer

Subject: Water Quality Training

In an effort to improve CDOT's construction program, there are a number of new or updated classes that will soon be offered to all employees who influence or impact water quality.

Every CDOT employee that is identified as a person who is required to take the mandatory training shall do so within the next fiscal year (June 1, 2012 – May 31, 2013). This is required by our Order on Consent Agreement with the CDPHE. This is a new requirement and new classes, previous WQ classes you may have taken in past years do not apply. In addition, refresher courses are required for all appropriate employees every three years for both mandatory courses.

Other courses are available for an internal Certification in CDOT Water Quality. This curriculum is optional, but highly encouraged for all CDOT employees to heighten awareness of water quality issues facing CDOT today and strengthen the skills of those that affect water quality in their daily work.

While CDOT has made great strides with our Construction Stormwater Program, we are still seeing findings of non-compliance on CDOT projects. To further help progress our program, the Erosion Control Supervisor Certification training is going to be increased from one day training to two. The new courses will focus on hands-on skills, new technology and methods, immersion in CDOT specifications and permit requirements, as well as general erosion/sediment control, thus providing an atmosphere more conducive to successful water quality management on CDOT projects.

For our contractors, the new requirements for the CDOT Erosion Control Supervisor Certification will need to be completed by January 2015. The training will be available starting January 2013, giving contractors two years to complete the certification. Refresher classes will be required every three years and will be required on CDOT projects. The CDOT Hydrologic Resource Unit will track certifications and send reminders to contractors when re-certification is due.

Training for our maintenance personnel is also available to help them make better decisions when accepting the stormwater permit from CDOT engineering or from contractors after the project is complete. Also; training in inspecting closed projects is available for these personnel. This may be mandatory at the discretion of the Maintenance Superintendent.

Even though maintenance personnel already take water quality classes as part of the Maintenance Academy each year, they may not be specifically required to take many of the classes offered in the attached curriculum. I encourage maintenance personnel interested in enhancing your skill set, by signing up for water quality classes that may help you do your job better. Please get the approval of your supervisor when considering taking these classes.

RTDs should inform their managers to include these training requirements into the appropriate employees IPOs as soon as practicable in order to facilitate swift implementation of these initiatives.

I am confident, with proper attention given to these training opportunities that our construction program will benefit from this new water quality/erosion control curriculum and we can become not only compliant with the regulations, but national leaders in this area of transportation delivery. I intend to take some of these classes, as will my management level engineers to show our support of these programs and to better understand what skills you are learning to benefit CDOT projects and the water quality and aquatic habitats of our state.

WATER QUALITY TRAINING CURRICULUM FOR CDOT PROJECTS



This document has been developed to describe the training available for employees to expand their water quality skills and understanding in order to improve compliance with state and federal regulations, CDOT specifications, and the CDPHE Consent Order.

The document is divided into several sections:

- Mandatory training required by the Chief Engineer in order satisfy agreement conditions
- CDOT Water Quality Certification Curriculum to develop the skills and information needed to help fulfill CDOT water quality goals
- CDOT Erosion Control Supervisor Certification to assist CDOT contractors improve compliance with stormwater regulation, and CDOT specifications
- CDOT SWMP Preparer Certification to enhance the region environmental personnel and consultant skill set and understanding of required components of Stormwater Management Plans (SWMP)s in order to provide better SWMPs for our construction projects
- Continuing Education to discuss refresher requirements and opportunities
- Where To Find Out About Classes
- Scheduling
- Course Descriptions

Consent Order Compliance Requirement #26

CDOT shall require all existing and newly hired engineers and other employees who are involved in project design, oversight and/or maintenance related to stormwater drainage and quality to attend a stormwater training course, or series of courses (including refresher courses), presented by a qualified third party or by CDOT. The course(s) shall specifically include, but not be limited to: Training on the incorporation of BMP design and overall stormwater management into a project's construction design and planning phase; detailed discussions on the implementation of BMPs during different phases of construction and the maintenance of a system/series of pollution controls throughout the life of a project and as a project evolves through those different phases; specific guidance on appropriate, functional and effective BMPs to implement when working in and adjacent to state waters and how those BMPs can and should be incorporated into the design of a project; training on the proper use of, and necessary modifications to, permanent flood control structures that are used as temporary construction BMPs; detailed instruction on final stabilization and the implementation and maintenance of BMPs at projects once construction operations have ceased, including a discussion of who will be responsible for maintaining those BMPs and how final stabilization will generally be monitored and achieved; and information on stormwater control technology advancements.

MANDATORY TRAINING

The following training curricula is intended to satisfy requirements described in Sections # 26 (Appendix A) of the Water Quality Consent Order entered into with the Colorado Department of Public Health and Environment (CDPHE) on January 1, 2009. CDOT entered into the Consent Order with CDPHE to resolve the civil penalties associated with the Notice of Violation/Cease and Desist Order (November 17, 2005) (Number: SO-051117-1) issued for violations of provisions of the General permit; *Stormwater Discharges Associated with Construction Activity*.

1. Training workshop – BMP Selection for Stormwater Management (Available through SAP December 2011)
Required attendees:
 - CDOT Project Managers and Project Engineers
 - Hydraulic Engineers
 - Region and HQ Environmental/Water Quality/ Specialists
2. Training workshop –Stormwater Management Plan (SWMP) Preparer Workshop **Part I** (Available May 2012)
Required attendees:
 - CDOT Project Managers and Project Engineers
 - Hydraulic Engineers
 - Region and HQ Environmental/Water Quality/ Specialists

Note: SWMP Preparer Workshop_Part II is not mandatory for compliance, but is required to be CDOT certified in designing SWMPs.

CDOT WATER QUALITY CERTIFICATION CURRICULUM

The following training curricula is intended to provide CDOT HQ, Region Project and maintenance personnel, CDOT Contractors, CDOT Consultants, and Local agency personnel that are involved with CDOT projects or projects on CDOT ROW with the skills and information needed to fulfill the following CDOT WQ goals:

- Compliance with Clean Water Act and CDPHE Water Quality Regulations
- Compliance with CDOT Specifications and WQ goals
- Compliance with CDOT Consent Order commitments
- Compliance with the Colorado Discharge Permit System (CDPS) Permit; *Stormwater Discharges Associated with Construction Activity*.
- Achieving goal on CDOT Chief Engineers Objective of 100% of RECAT findings resolved or addressed within 48 hours of the inspection

REQUIRED FOR CDOT WATER QUALITY CERTIFICATION

Training workshop –

Stormwater Management and Erosion Control

1. (Training Available Through Red Rocks Community College and free through periodic CDOT offerings)

Recommended Attendees:

- CDOT Project Managers and Project Engineers
- Hydraulic Engineers
- Region and HQ Environmental/Water Quality/ Specialists
- CDOT Consultants
- Local Agency personnel or consultants for projects that are built on CDOT ROW

2. Training workshop – BMP Selection for Stormwater Management (Available through SAP December 2011)

Recommended attendees:

- CDOT Project Managers, maintenance, and Project Engineers
- Hydraulic Engineers
- Region and HQ Environmental/Water Quality/ Specialists
- CDOT Consultants
- Local Agency personnel or consultants for projects that are built on CDOT ROW

3. Training workshop – Water Quality Permits for the Transportation Professional (Available free through periodic CDOT offerings)

Recommended Attendees:

- CDOT Project Managers, maintenance, and Project Engineers
- Hydraulic Engineers
- Region and HQ Environmental/Water Quality/ Specialists
- CDOT Consultants
- Local Agency personnel or consultants for projects that are built on CDOT ROW

4. Training workshop –National Environmental Policy Act (NEPA) (Available free through periodic CDOT offerings)

Recommended Attendees:

- CDOT Project Managers, maintenance, and Project Engineers
- Hydraulic Engineers
- Region and HQ Environmental/Water Quality/ Specialists
- CDOT Consultants
- Local Agency personnel or consultants for projects that are built on CDOT ROW

AND ONE OF THE FOLLOWING ELECTIVES:

1. Training workshops:
 - a. Conducting Stormwater Compliance Inspections for Construction Activities
 - b. Conducting Stormwater Compliance Inspections for Maintenance Personnel

CDOT EROSION CONTROL SUPERVISOR CERTIFICATION

Completion of the following training curricula and subsequent attainment of the CDOT ECS Certification is required of all CDOT Contractors prior to bidding and award of CDOT projects contracts. (Subsection 208.03). Contractors must successfully complete and obtain a passing grade in both of the following trainings to obtain the CDOT ECS Certification:

Training workshop –

Stormwater Management and Erosion Control

1. (Available Through Red Rocks Community College and free through periodic CDOT offerings)

Required Attendees:

- CDOT Project Contractors

2. Training workshop – Essentials of CDOT Erosion/Sediment Control and Stormwater Management Classroom and Practicum (Available free through periodic CDOT offerings)

Required Attendees:

- CDOT Project Contractors

CDOT SWMP PREPARER CERTIFICATION

Completion of the following training curricula and subsequent attainment of the CDOT SWMP Preparer Certification is required of all CDOT staff and consultants who will be preparing SWMPs for CDOT projects. The exception is that CDOT Hydraulic Engineers with 5 years CDOT SWMP design experience do not have to take both of these courses in order to prepare SWMPs for projects. They do, however, have to take the Part I SWMP Preparer class as outlined above in the mandatory training section in order to satisfy the Consent Order requirements.

1. Training workshop – Stormwater Management Plan (SWMP) Preparer Workshop **Part I** (Available May 2012)

Required attendees:

- Region and HQ Water Quality Personnel/Specialists with duties preparing SWMPs or reviewing SWMPs*
- CDOT Consultants contracted to prepare SWMPs or review SWMPs for CDOT projects *
- Local Agency personnel or consultants that prepare SWMPs or review SWMPs for projects that are built on CDOT ROW *

2. Training workshop – Stormwater Management Plan (SWMP) Preparer **Part II** (Available Summer 2012)

Required attendees:

- Region and HQ Water Quality Personnel/Specialists with duties preparing SWMPs or reviewing SWMPs*
- CDOT Consultants contracted to prepare SWMPs or review SWMPs for CDOT projects *
- Local Agency personnel or consultants that prepare SWMPs or review SWMPs for projects that are built on CDOT ROW *

* The exception is that Professional Hydraulic Engineers with 5 years design experience with CDOT SWMPs only have to take the course at the CDOT Resident Engineer's discretion in order to prepare SWMPs for projects that are built on CDOT ROW.

The Part II SWMP Course – SWMP Preparers course will be the requirement for CDOT personnel to be able to prepare SWMPs. Participants who only take Part I will not be certified to prepare SWMPs for

CDOT. Part II will not only fulfill the requirement of the CO in the area of SWMP design, but will also address working in or adjacent to state waters, and modifying permanent flood control structures for use during construction.

CONTINUING EDUCATION:

Once every three years, refresher courses of the above listed courses must be taken by all applicable personnel listed in order to maintain:

- Compliance with the Consent order – in the case of the Mandatory Training Curriculum
- Certification - in the case of the CDOT Water Quality Certification Curriculum
- Certification - in the case of the CDOT Erosion Control Supervisor Certification

WHERE TO FIND OUT ABOUT CLASSES:

- HQ WQ Lead
- Environmental Programs Website <http://www.coloradodot.info/programs/environmental/water-quality/training.html>
- CDOT Office of Training and Personnel Development Website
- <http://internal/TrainingAndOD/>

SCHEDULING

Schedules for these training opportunities will be announced during the month of January 2012 and be distributed via e-mail to affected personnel and their managers. Locations of the training opportunities will vary. CDOT facilities on the Front Range as well as locations on the Western Slope will be utilized in order to best provide for convenient access for the training audience. Some courses may be offered at the CDOT EPB Winter Conferences. (This conference has not been held the past two years due to budgetary constraints. It is our hope that the conference will resume sometime in the 2012 calendar year) See the webpage for course availability.

<http://www.coloradodot.info/programs/environmental/winter-conference>

The new requirements for the CDOT Erosion Control Supervisor Certification will take effect January 2015. The training will be available starting January 2013, giving contractors two years to complete the certification. Refresher classes will be given every three years and will be required in order to bid on CDOT projects. CDOT water quality program will track certifications and send reminders to contractors when re-certification is due.

COURSE DESCRIPTIONS

BMP Selection for Stormwater Management

The purpose of this course is to teach CDOT employees best management practices (BMP) selection for project Stormwater management plans (SWMP), erosion control and basics of hydrology and hydraulic engineering. The course is one in a series of courses to meet compliance requirement #26 of the Consent Order (CO) entered in 2008 between Colorado Department of Health and Environment (CDPHE) and CDOT to train all employees who are involved in project design, oversight and/or maintenance related to Stormwater drainage and quality about “... *the incorporation of BMP design and overall stormwater management into a project’s construction design and planning phase; detailed discussions on the implementation of BMP’s during different phases of construction ...*”

Upon completion of the course you will know how to select BMP’s for project Stormwater management, apply principles of Stormwater drainage and hydrology, and assess and mitigate construction related erosion and sedimentation.

Class is available in SAP in December 2011

SWMP Preparer (Part I)

The initial SWMP course is the mandatory first step for CDOT personnel who will prepare SWMPs, construct projects and operate the system. It also contains crucial design related information needed to meet compliance requirement #26 of the Consent Order (CO) entered in 2009 between Colorado Department of Health and Environment (CDPHE) and CDOT to train all employees who are involved in project design, oversight and/or maintenance related to Stormwater drainage and quality about “... *the incorporation of BMP design and overall stormwater management into a project’s construction design and planning phase; detailed discussions on the implementation of BMP’s during different phases of construction ...*”

Class is available in SAP in May 2012

SWMP Preparer (Part II)

The Part II SWMP Course – SWMP Preparers course will be the requirement for CDOT personnel to be able to prepare SWMPs. Participants who only take Part I will not be certified to prepare SWMPs for CDOT. Part II will not only help fulfill the requirement of the CO in the area of SWMP design, but will also address working in or adjacent to state waters, and modifying permanent flood control structures.

Class available in SAP Summer 2012

Stormwater Management and Erosion Control

The purpose of this course is to learn the principles and practices of erosion and sediment control during construction activities. This course will cover legal requirements, the process of erosion and sedimentation, erosion control, best management practices (BMPs) selection, application, maintenance, structural and non-structural installation guidelines, SWMP requirements, inspection protocols, materials handling and storage, and temporary and permanent stabilization.

Class is currently available at:

Red Rocks Community College scott@altitudeta.com

CETC 150

or through Altitude Training Associates contact Scott Olson at Altitude Training Associates. Phone: 307-630-8110

Essentials of CDOT Erosion/Sediment Control and Stormwater Management Classroom and Practicum (Classroom and BMP Outdoor Facility)

This interactive class and practicum focuses on CDOT specific permits (Construction Stormwater, MS4), policies, specifications, standards, and practices with respect to stormwater and erosion/sediment control. The class includes visual demonstrations of the implementation of specific BMPs. Students will be involved in the installation of various BMP control features and then observe the features functioning with simulated storm events. Instructors will facilitate these exercises to ensure all participants complete the training with an adequate understanding and working knowledge of the specific BMP application, installation and maintenance procedures. Taught primarily by CDOT employees, it is meant to familiarize the student with elements of the CDOT water quality/construction program and give them access to information, reference materials, resources, periodic bulletins, etc.

Class available in SAP January 2013:

Water Quality Permits for the Transportation Professional

This four hour workshop style class will discuss common permits needed by CDOT projects including: Construction Stormwater, Construction Dewatering, Infiltration, 404, 401 requirements. The emphasis will be placed on application, who to contact for assistance, general requirements, applicability, inactivation, and responsibility.

Class currently available in SAP:

National Environmental Policy Act (NEPA) Training

The purpose of this course is to provide CDOT employees with a basic understanding of the National Environmental Policy Act (NEPA) process. This class will focus on CDOT's approach to NEPA and environmental stewardship. We will discuss when NEPA applies, the various classes of action, various resources to consider, public involvement, purpose and need, alternatives, determining impacts, and mitigation. We will also review the various sections of CDOT's NEPA Manual.

Class currently available in SAP:

Erosion Control Supervisor Course for Project Engineers

This class is designed for CDOT Project Engineers. The course covers legal requirements, permitting requirements, MS4 requirements (New Development and Construction Programs), 107.25 and 208 specifications, inspection requirements, best management practices (BMPs) selection, application, and maintenance, materials handling, temporary and permanent stabilization, capture volume tier guidelines, sensitive waters, and compliance ensuring strategies such as the 208 disincentive. The goal of the interactive class is to support and assist the Project Engineer with ensuring contractor compliance. Also to provide an understanding of the training that the contractor's Erosion Control Supervisor received in the Stormwater Management certification class.

Class available in SAP January 2012:

Conducting Stormwater Compliance Inspections for Construction Activities

This 2-Day training course has been designed by *Altitude Training Associates* for inspectors of construction site activities and Best Management Practices (BMPs) used to manage pollutant sources, & control erosion and sedimentation during construction. The course covers; preparing for and conducting a comprehensive inspection of a CDPHE *Stormwater Discharges Associated with Construction Activity* permitted site. Specific features of this course will address topics to prepare inspectors for consistent inspection procedures. Training participants that successfully complete the course will receive a certificate of completion.

Class available in SAP January 2012:

Conducting Stormwater Compliance Inspections for Maintenance Personnel

One day class similar to “Conducting Stormwater Compliance Inspections for Construction Activities” above, but for maintenance personnel who will be performing monthly stormwater inspections on post-construction sites until the stormwater permit can be closed when the area achieves 70% pre-existing vegetation. Development and delivery of the class is required by CDPHE prior to allowing maintenance personnel to conduct these inspections.

Class available in SAP January 2012:

Introduction to Specification Writing

Provides an overview of the Standard Specifications book and how it used; it also discusses the types of special provisions that modify the spec book, and how to write special provisions for projects.

Class available - TBA: